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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,792

07/20/2006

Naohiro Yoshida

128727

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25944 7590 02/04/2011
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EXAMINER

HAN, KWANG S

ART UNIT

PAPER NUMBER

1727

NOTIFICATION DATE

DELIVERY MODE

02/04/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com
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Office Action Summary	Application No.	Applicant(s)	
	10/586,792	YOSHIDA, NAOHIRO	
	Examiner	Art Unit	
	Kwang Han	1727	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-22 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-22 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FUEL CELL SYSTEM AND METHOD FOR DRIVING SAME

Examiner: K. Han SN: 10/586,792 Art Unit: 1727 February 1, 2011

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 26, 2010 has been entered. Claim 23 was cancelled. Claims 9 and 24 were amended.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

4. The claim rejections under 35 U.S.C. 102(b) as being anticipated by Iio et al. on claims 9, 10, 12-15, 17-20, and 24 are withdrawn, because the independent claims 9 and 24 has been amended.

Claim Rejections - 35 USC § 103

5. The claim rejection under 35 U.S.C. 103(a) as unpatentable over Iio et al. in view of Driggers on claims 11, 16, and 21-22 is withdrawn, because independent claims 9 and 24 has been cancelled.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kazuo (JP 2002-352837, human translation) in view of Iio et al. (US 6663990).

Regarding claims 9, 14, 18, and 24, Kazuo discloses a fuel cell system comprised of a fuel cell for generating power by circulating a fuel gas such as hydrogen [0001, 0002], a fuel gas supplying device (2), an ejector pump (drive means, 4), a fuel gas supplying line (circulation route; L2; Figure 1), a control unit (21) for controlling a supply pressure control valve (3) [0016] that is outside of the circulation route (Figure 1) which adjust the control valves to provide adjusted pressure and optimum gas flow rate to the fuel cell stack based on required gas quantity and measured pressure [0042] but does not explicitly teach the control means controlling a drive quantity of the drive means and the control means making up a deficiency while inhibiting a variation of the drive quantity.

Iio teaches a fuel cell system which has a control unit (5, control means) that controls a hydrogen draw pump (12) in combination with a control valve (11, pressure regulating device) located in a hydrogen passage (Figure 9) to regulate the flow rate and pressure of the hydrogen gas in response to output signals (4:12-7:16) including the end of a purge cycle which makes up a deficiency of the fuel gas according to the required gas quantity regulating the pressure (to a preset operating pressure) of the fuel

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gas while inhibiting a variation (resetting the drawing power of the pump) of the drive quantity to allow for continued normal operation of the fuel cell after a purge sequence (5:10-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the control unit of Kazuo to control the pump and valves of the fuel cell system because Ito recognizes it allows for the make up in the deficiency of a gas to continue normal operation of the fuel cell after a purge sequence.

Regarding claims 10-13, 16, 20, 21 and 22, limitations which are directed to a manner of operating the disclosed device (e.g. "according to an increase in a required gas quantity", "varied correspondingly to a variation", etc.), it is noted that neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP § 2114 and 2115. Further, it has been held that process limitations do not have patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states "Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim."

Regarding claim 15, Kazuo further discloses sensors (6, 7) determining the pressure (means for determining pressure regulation) [0039] and Ito further discloses the control unit determining the drawing power of the pump (means for determining a drive characteristic; 5:10-28).

Regarding claim 17, Kazuo discloses the supply control valve equipped with a first actuator (5; Figure 1) for adjusting the opening in the control valve (3).

Regarding claim 19, Kazuo does not explicitly teach the fuel gas supply being a hydrogen tank.

lio teaches a hydrogen tank being a fuel gas supply source for the fuel cell system to allow for storage of hydrogen gas to be used within the fuel cell (7:17-26). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a hydrogen tank in the fuel cell system of Kazuo because lio recognizes a hydrogen tank allows for storage of hydrogen gas which can be fed to the fuel cells.

Response to Arguments

7. Applicant's arguments with respect to claims 9-22 and 24 have been considered but are moot in view of the new ground(s) of rejection.

Contact/Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang Han whose telephone number is (571) 270-5264. The examiner can normally be reached on Monday through Friday 8:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. H./

Examiner, Art Unit 1727

/Dah-Wei D. Yuan/

Supervisory Patent Examiner, Art Unit 1727